

Appl. No. 09/975,444
Reply to Office action of 05/20/2003

REMARKS

Reconsideration of the above-referenced application in view of the above amendment, and of the following remarks, is respectfully requested.

Claims 12-22 are pending in this case. Claims 12 and 17 are amended herein and claims 1-11 are cancelled herein.

The Examiner rejected claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 under 35 U.S.C. § 103(a) as being unpatentable over the applicant's admitted prior art (AAPA) of this application in view of Iacoponi et al. (U.S. '754). Claims 1-11 are cancelled.

The Examiner rejected claims 12, 13, 14, 15, and 16 under 35 U.S.C. § 103(a) as being unpatentable over the applicant's admitted prior art (AAPA) of this application in view of Iacoponi et al. (U.S. '754).

Applicant respectfully submits that amended claim 12 is patentable over the AAPA in view of Iacoponi et al as there is no disclosure or suggestion in the references of depositing a liner/barrier layer over a dielectric layer, performing a sputter etch using a low bias after the step of depositing a liner/barrier layer, and depositing a seed layer over the liner/barrier layer after said step of performing the sputter etch. As the Examiner noted, the AAPA fails to teach performing a sputter etch after the step of depositing a liner/barrier layer. Iacoponi is applied to teach a sputter etch after depositing the liner/barrier layer. However, the claim further requires depositing the seed layer after the step of performing the sputter etch. Iacoponi teaches the opposite. It teaches depositing the seed layer and then performing a sputter etch on the seed layer. The combined references would not suggest to one of ordinary skill in the art depositing a liner/barrier layer over a dielectric layer, performing a sputter etch using a low bias after the step of

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depositing a liner/barrier layer, and depositing a seed layer over the liner/barrier layer after said step of performing the sputter etch. Accordingly, Applicant respectfully submits that claim 12 and the claims dependent thereon are patentable over the references.

The Examiner rejected claims 17, 18, 19, 20, 21, and 22 under 35 U.S.C. § 103(a) as being unpatentable over the applicant's admitted prior art (AAPA) of this application in view of Iacoponi et al. (U.S. '754).

Applicant respectfully submits that claim 17 is patentable over the AAPA in view of Iacoponi as there is no disclosure or suggestion in the references of depositing a liner layer, wherein the liner layer has an overhang portion, performing a sputter etch using a low bias to at least reduce a thickness of the overhang portion after the step of depositing the liner layer, and depositing a barrier layer over the liner layer after the step of performing the sputter etch. The AAPA fails to teach performing a sputter etch after the step of depositing a liner. Iacoponi teaches performing a sputter etch after depositing a barrier layer and a seed layer. There is no disclosure or suggestion in the references of performing a sputter etch to reduce an overhang portion of a liner layer and then, subsequently, depositing a barrier layer. Accordingly, Applicant respectfully submits that claim 17 and the claims dependent thereon are patentable over the references.

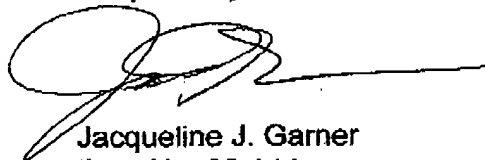
The other references cited by the Examiner have been reviewed, but are not felt to come within the scope of the claims as amended. Chen et al teach a RF sputtering that removes the glue layer 208 from the bottom of the hole in contrast to the low bias sputter etch of the claimed invention. Yu teaches a reactive ion etching process.

In light of the above, Applicant respectfully requests withdrawal of the Examiner's rejections and allowance of claims 12-22. If the Examiner has any

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questions or other correspondence regarding this application, Applicant requests that the Examiner contact Applicant's attorney at the below listed telephone number and address.

Respectfully submitted,



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